

AGENDA ITEM VI A

UPDATE ON CONDITIONALLY APPROVED PROGRAM

SOUTHERN UNIVERSITY at BATON ROUGE

MASTER OF ENGINEERING

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MASTER OF ENGINEERING

BACKGROUND INFORMATION

At its meeting of September 27, 2001, the Board of Regents took the following action relative to Southern University - Baton Rouge (SUBR):

Conditional approval is granted for the proposed Master of Engineering program (CIP Code 14.0101) at Southern University-Baton Rouge, effective Spring, 2002. Beginning October 1, 2002, and on that date thereafter during the term of the Desegregation Settlement Agreement, the University shall submit to the Commissioner of Higher Education a progress report relative to efforts of the University to address weaknesses and problematic areas which external consultants identified. Further, the name of the Department of Civil Engineering shall be changed to the Department of Civil and Environmental Engineering, effective immediately.

Subsequently, at its meeting of March 26, 2003, the Board of Regents took the following action:

The Board of Regents receives the Progress Report from Southern University at Baton Rouge Relative to Implementation of the Master of Engineering Program. The next progress report shall be due October 1, 2003.

STAFF ANALYSIS

The second progress report was received from Southern University (SUBR) on February 13, 2004. The staff summary focuses on four problematic areas identified in the last progress report as follows:

1. *Tuition waivers should be included as part of assistantships*

SUBR has stated that starting fall semester 2004, graduate students who are recipients of Graduate Teaching Assistantships (GTAs) or Graduate Research Assistantships (GRAs) will also receive in-state tuition scholarships. Currently, non-resident graduate students who are recipients of assistantships from the College are exempted from paying out of state tuition.

2. *A wider range and duration of external funding to support teaching and*

research assistantships must be secured.

Thirty-five proposals were submitted by eighteen College of Engineering faculty to various funding agencies during academic year 2002-03. Graduate research assistantships were requested in the budget of these proposals. Several students already receive GRA support from other funding sources to assist faculty in research. The College anticipates more students to be supported by externally funded research projects. Beginning Fall 2004, each engineering department offering a speciality option area in the Master of Engineering program will offer at least one teaching assistantship to a qualified graduate student. SUBR indicates that at the present time, approximately 30% of the graduate students are supported by assistantships offered through the Graduate School, the College of Engineering, respective departments and principal investigators of funded research projects.

3. *A mechanism for rewarding faculty who meet the strategic objectives of a viable research program must be developed and effected.*

As indicated above, while thirty-five proposals were submitted by Engineering faculty during Academic Year 2002-03; fifteen proposals were funded. Seven faculty members were awarded a combined total of \$708,650. Four of these proposals, totaling \$176,600, were funded by the Board of Regents Support Fund; two grants totaling \$150,000 were funded by NASA.

One of the institutional strategic goals of Southern University is to continue improving and enhancing faculty and student scholarship, research, and other creative pursuits. To accomplish this goal, the specific objectives are to:

- a. Build an effective infrastructure that will increase faculty and student scholarship, research and creative pursuits toward achieving Carnegie Doctoral II-Research Intensive Status;
- b. Increase the number of scholarly publications, artistic creations and scholarly presentations annually by 5% for the next five years;
- c. Increase the number of individual project proposals by 10%, the number of institutional project proposals by 5% and the number and dollar amount of sponsored project awards by 10% over the next five years. The Southern University 2001-02 data will be used as the baseline for assessment; and
- d. Establish university wide policies and procedures for professional research staff.

The university is in the process of developing policy for redistribution of a portion of the generated indirect costs to faculty. This will be one mechanism for rewarding faculty who meet the strategic objectives. Through the Office of Research and Strategic Initiatives, the University annually recognizes faculty who distinguish themselves in the area of research.

4. *Formal arrangements for capstone projects/internships are needed.*

Capstone projects are a component of only one option of the Master of Engineering, as the other option requires a research thesis, recommended for students who wish to conduct basic research and perhaps pursue a doctoral degree in the future. The project is to be completed under the supervision of experienced engineers from industry and/or government and a graduate faculty advisor. The College has formal agreements with Boeing and Raytheon, which provide capstone design projects and Oak Ridge Institute, which provides summer internships. A list of agencies, companies and institutions with whom the University has signed memoranda of understanding for support of graduate student projects for the College of Engineering include:

New Orleans District Corps of Engineers
Vicksburg District Corps of Engineers
The Boeing Company
Raytheon Company
NASA Space Shuttle Design Conversion Project
Oak Ridge Institute
Shaw Environmental Group, Inc.
ABMB, Inc.
Science and Engineering Alliance, Inc.
Materials Evaluation Laboratory, Inc.
3E Technologies, Inc.
Texas Instruments, Inc.
Louisiana State University
University of New Orleans
Michigan Technological University
Colorado State University
Washington State University

Additional information provided by the institution indicates that enrollment in the M Eng program grew to forty by 2003 and is projected to reach 60 in 2004. These numbers exceed enrollment projections and are attributed to aggressive recruitment efforts by the program director and faculty. The first students to complete the program graduated in 2003. A Master of Engineering Handbook has been developed which contains all necessary information for prospective students, from admission requirements and procedures to graduation check-out.

Two new faculty joined the College of Engineering during the 2002-03 AY, one in electrical engineering and the other in mechanical engineering. Both were hired under the Joint Faculty Appointment Program, articulated between SU and LSU and are supported by NSF/LEQSF contracts. Dr. Anitra Wilson will enhance the research efforts and course offerings in the communications and computer network engineering speciality. Dr. Guoqiang Li will enhance

the research efforts and course offerings in the materials science and engineering speciality.

Lastly, the computer and laboratory facilities available for students in the MEng program have been improved tremendously.

STAFF SUMMARY

The staff observes:

1. It is appropriate for tuition waivers to be part of assistantships.
2. More graduate teaching and research assistantships are needed, especially those funded by extramural monies. More than 30% of students should be supported.
3. The M Eng program at SUBR needs to increase the number of grants submitted. The institution must develop mechanisms to reward faculty awarded funds. Returning a portion of the indirect costs generated by extramural funding to faculty receiving the award is appropriate. A definite protocol for this reward process should be included in the next progress report. SUBR might also consider teaching load assignments and as the distribution of University and/or College assistantships. Other mechanisms for encouraging the submission of grant proposals and rewarding faculty who receive extramural funding should be investigated.
4. Formal arrangement for capstone project oversight should be completed with all participating agencies and institutions.

STAFF RECOMMENDATION

The staff recommends that the Academic And Student Affairs Committee receive the 2002-2003 Progress Report from Southern University-Baton Rouge relative to the implementation of the Master of Engineering program. The next progress report shall be due April 1, 2005.